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PCRM PHYSICIANS COMMITTEE FOR RESPONSIBLE MEDICINE
5100 WISCONSIN AVENUE, N.W., SUITE 400
WASHINGTON, DC 20016
T: (202) 686-2210 F: (202) 686-2216
PCRM@PCRM.ORG WWW.PCRM.ORG

September 15, 2004

Michael O. Leavitt, Administrator
U.S. Environmental Protection Agency
Ariel Rios Building, 1101-A
1200 Pennsylvania Ave., N.W.
Washington, DC 20460

Subject: Comments on the HPV Test Plan for Di-tertiary (C9-C12) alkyl polysulfides

Dear Administrator Leavitt:

The following comments on Chevron Phillips and ATOFINA's HPV test plan for the chemical category Di-tertiary (C9-C12) alkyl polysulfides are submitted on behalf of the Physicians Committee for Responsible Medicine, People for the Ethical Treatment of Animals, the Humane Society of the United States, the Doris Day Animal League, and Earth Island Institute. These health, animal protection, and environmental organizations have a combined membership of more than ten million Americans.

Chevron Phillips Chemical Company LP and ATOFINA Chemicals submitted their test plan on April 29, 2004, for the chemical category Di-tertiary (C9-C12) alkyl polysulfides which includes four chemicals: Polysulfides, di-tert-nonyl (CAS No. 68425-16-1), Pentasulfide, di-tert-dodecyl (CAS No. 31565-23-8), tert-Dodecylmercaptan, sulfur reaction product (CAS No. 68583-56-2), and Polysulfides, di-tert-dodecyl (CAS No. 68425-15-0). These chemicals are used primarily as reagents for catalyst sulfidation in metalworking and metal processing industries. Existing data demonstrates similar physicochemical properties and toxicity profiles for the four chemicals and we support the formation of a category for these polysulfides. We are also encouraged by the collaboration between Chevron Phillips and ATOFINA on the submission of a well-written, thorough test plan that avoids separate and/or duplicative testing which would otherwise violate the basic tenets of animal welfare agreement and the HPV program.

The sponsors have submitted a comprehensive analysis of di-tertiary alkyl polysulfides and most SIDS endpoints have been fulfilled using existing data. At this time, however, we question the sponsors' proposal to conduct a 90-day repeated dose study (OECD 408) **simply** to address the reproductive toxicity endpoint. If conducted, this test will result in the death of at least 80 animals, without adequately interpreting data from existing studies.

As indicated in the test plan, di-tertiary alkyl polysulfides have low bioavailability and will not bioaccumulate. In fact, they do not appear to be bioactive as demonstrated by the numerous toxicity studies, all negative, conducted at high doses (often at the limit dose)

and thus, this category of chemicals should not be designated as a priority for testing. They do not show any apparent genetic toxicity, no developmental toxicity at the limit dose (1000 mg/kg bw), and extremely high LD50 values, ranging from 17,781-21,495 mg/kg bw for di-tertiary nonyl polysulfide. Furthermore, the reproductive organs may have been examined in the 28-day repeated dose study although no tissues were listed in the robust summaries. The robust summaries did indicate however, that "no abnormalities of toxicological importance were noted among...organ weights, macro- and microscopic examinations" (p. 61). If data on histopathology of reproductive organs from repeated dose studies are available, when combined with data from the developmental study, a weight-of-evidence approach may be used to meet the SIDS endpoint for reproductive toxicity without conducting additional animal tests. There is no evidence that these compounds would be expected to affect reproductive performance and it is premature to conduct a 90-day repeated dose study before confirming effects, if any, on reproductive organs from the 28-day repeated dose study.

We ask that the sponsors revise their test plan to include information on the histopathology of reproductive organs from the 28-day repeated dose study. We also note that this study was conducted at a very high dose, 1000 mg/kg/d, and if the data are available, we question the need to repeat this study simply to increase the exposure time to 90 days. This would constitute a scientifically valid analysis and without it, additional animal testing merely serves as a box-checking exercise and demonstrates a lack of concern for animal welfare. As indicated in both the October 1999 letter as well as the December 2000 Federal Register notice, HPV participants "*may conclude that there is sufficient data, given the totality of what is known about a chemical, including human experience, that certain endpoints need not be tested. As with all chemicals, before generating new information, participants should further consider whether any additional information obtained would be useful or relevant.*"

Finally, although the sponsors refer to the REACH program, this test plan was submitted under the HPV program, not the REACH program. The REACH program has not yet been implemented and may still be modified. Although we concur with the strategy of selecting a protocol that uses the minimum number of animals—OECD 408 uses 80 animals while OECD 422 uses 675 animals—for the purposes of a screening level program such as HPV, no additional animal testing should be conducted with di-tertiary alkyl polysulfides.

Thank you for your attention to these comments. I may be reached at 202-686-2210, ext. 327, or via e-mail at *meven@pcrm.org*.

Sincerely,

Megha Even, M.S.
Research Analysis

Chad B. Sandusky, Ph.D.
Director of Toxicology and Research

References

EPA. Data collection and development on high production volume (HPV) chemicals. *Federal Register*, Vol. 65, No. 248, Dec. 26, 2000.

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